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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,025

02/25/2004

Jack Nilsson

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11/23/2005

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EXAMINER

CABUCOS, MARIE G

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/787,025

Applicant(s)

NILSSON, JACK

Examiner

Marie Antoinette Cabucos

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/25/2004 and amendment filed on 9/29/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 36-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6, 9-13, 15-23 and 26-30 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 14, 24, 25 and 31-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 10, 12, 15, 17, 18, 22, 23, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohira et al (6,407,719) in view of Vinson et al (US Patent no. 6,100,855).

Claims 1, 3, 4 and 15, Ohira, figures 3-5, discloses an antenna comprising at least one parasitic reflector element (6) having a first end and a second end; at least one parasitic director element (A1-A6) having a first end and a second end; a driven element (A1-A6) positioned co-linearly with and between said at least one reflector element and said at least one director element; and an electrically conductive ground plane (11) being electrically connected to said at least one reflector element and said at least one director element at said second ends, and being electrically isolated from said driven element. (Refer to figures 1-4 and column 4, lines 55-57 of the prior art.) Ohira further discloses interfacing of antenna element with radio frequency transmitter and receiver (100) Ohira does not disclose of the antenna having a ground plane having a width of about $\frac{1}{4}$ wavelength. However Vinson discloses such a ground plane (col. 7, lines 8-13). It would have been obvious by one having ordinary skill in the art, at the

Art Unit: 2821

time of the invention, to provide the antenna in Ohira with the ground plane of Vinson to achieve the desired levels of performance of the ground plane (col. 3 lines 33-44).

2. Claims 5 and 22, Ohira further discloses an antenna comprising an electrical connector to allow connection of said driven element and said ground plane to a transmission line (col. 3, lines 20-25).

3. Claims 6 and 23, Vinson discloses an antenna wherein said ground plane may be in any functional shape (col. 3, lines 29-31).

4. Claims 17, 18 and 27, Vinson discloses method of adjusting initial length of the antenna elements (col. 3, lines 8-15).

5. Claims 10, 12 and 29, Ohira further discloses an antenna wherein said reflector element and said at least one director elements are substantially linear and comprising a reflector plate being positioned at a reflector element end of said ground plane, being substantially perpendicular to said ground plane (11) as seen in figures 1-4 of the prior art.

6. Claims 2, 9, 11, 13, 16, 19-21, 26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohira in view of Sharp et al (5,990,845).

Ohira discloses all the claim elements as set forth above, except for the radiative members being electrically connected at an apex point disposed outwardly from said apex point. Sharp teaches of an antenna with radiative members electrically connected at an apex point as shown in figure 3c of the prior art (also refer to col.2, lines 39-41). It would have been obvious by one having ordinary skill in the art, at the time of the

Art Unit: 2821

invention, to manufacture the antenna of Ohira with the radiative members of Sharp so as to increase the antenna's ability to receive and transmit signals in a particular direction.

Allowable Subject Matter

7. Claims 7, 8, 14, 24, 25 and 31-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art neither discloses nor suggests the following limitations in the combination with the remaining elements as disclosed in claim 15:

Claims 7, 8, 14, 24 and 25, limitation of ground plane comprising a first electrically conductive sheet having a rectangular second and third electrically conductive sheets each having a width of about $\frac{1}{4}$ wavelength of a tuned radio frequency, each being substantially the same length as said first conductive sheet, said second conductive sheet having a first lengthwise edge that is mechanically and electrically connected to a first lengthwise edge of said first conductive sheet and forming an angle with respect to said first conductive sheet, and said third conductive sheet having a first lengthwise edge that is mechanically and electrically connected to a second lengthwise edge of said first conductive sheet and forming an angle with respect to said first conductive sheet.

Art Unit: 2821

8. Claims 31-35, limitation of antenna wherein a first spacing between a first odd numbered director element Dodd of said at least one director element and an adjacent even numbered director element Dodd-l of said at least one director element is greater than a second spacing between said even numbered director element Dodd-l and an adjacent second odd numbered director element Dodd-z of said at least one director element. Also limitation of antenna wherein a first difference in length between a first odd numbered director element Dodd of said at least one director element and an adjacent even numbered director element Dodd-l of said at least one director element is less than one-half a second difference in length between a second odd numbered director element Dodd-z of said at least one director element and said adjacent even numbered director element Dodd-l.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art of record to Gueguen (US Patent no. 3,846,799) discloses an electronically step-by-step rotated directive radiation beam antenna.

Prior art of record to Wheeler (US Patent no. 4,633,265) discloses a low frequency/high frequency omnidirectional antenna formed of plural dipoles extending from a common center.

Prior art of record to Moilanen (US Patent no. 5,561,439) discloses a car phone antenna.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie Antoinette Cabucos whose telephone number is 571-272-8582. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marie Antoinette Cabucos
11/17/2005

Shih-Chao Chen 11/21/05
SHIH-CHAO CHEN
PRIMARY EXAMINER